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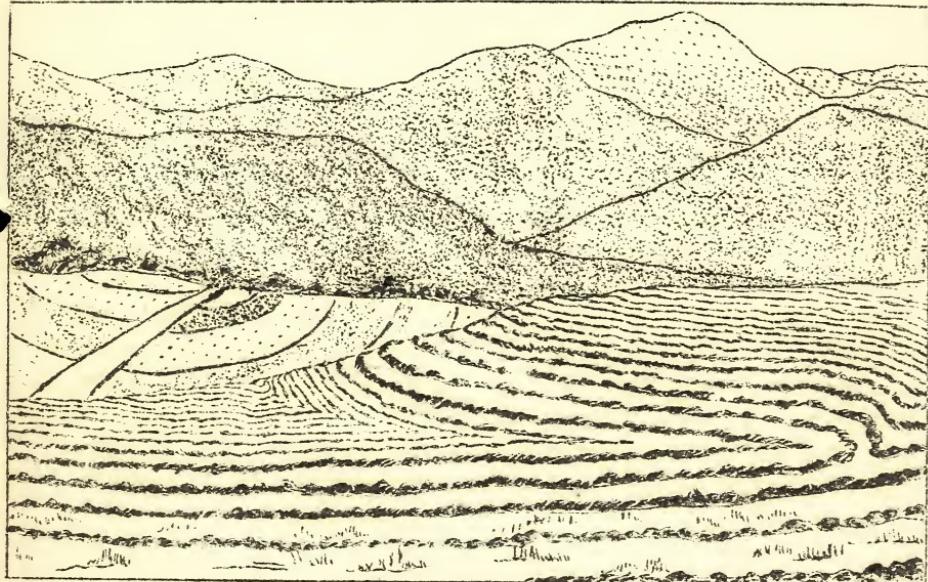


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C O L O R A D O



# COLORADO CONSERVANCY



NOVEMBER 1935

## THE SOIL CONSERVATION SERVICE

What does this mean to the peoples of the farms and cities of this Nation? To understand, is to examine each component part of The Soil Conservation Service.

Soil...fertile Soil, every inch of which has required four hundred years of Nature's work in it's building. Soil...the not illimitable reservoir that furnishes all Food, the vital necessity of mankind. Soil...the basic resource of all Nations of the past, present, and future.

Conservation...the act of conserving, protecting, and preserving. Conserving the good land or Soil which we still have, by proper land use and farm management. Protecting and guarding through vegetative and mechanical measures this present productive Soil against the constant Destroyer Erosion. Preserving this soil in our National Bank of Resources by intelligent and commonsense cooperative methods, that we will not suffer the visible tragedies of other nations as we observe them now. Conservation...in order that our future generations will inherit in the Soil of the United States, a vast National Agricultural Resource.

Service...in this case a specific organization permanently authorized by the people through an act of Congress, to wage an intensive war against the Enemy Erosion. By demonstration of Conservation and methods of permanent control, this Service has a destined job to prevent future impoverishment and destruction of our lands. A Service to the Nation today and the Nation tomorrow. A Service to repel the invader of our Soils that our prosperity shall endure in posterity.

The Editor

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Colorado Springs, Colorado

A. E. McClymonds  
Regional Director

Editor--J. S. Young

Contributors - Soil Conservation Service Staff

### SAYS THE REGIONAL DIRECTOR

Colorado is on, figuratively speaking, the top of the world. This is especially true in respect to the drainage areas that come together and make rivers. We have many rivers, which originate in the state. The Republican, Arkansas, Smoky Hill and Platte all flow eastward. The Colorado, Gunnison, San Miguel and Dolores flow to the west. The Yampa is a main tributary of the Green, which flows into Utah. The Animas, San Juan and Rio Grande flow to the south.

Mountainous precipitation predominates. That means practically all of the rains come in torrential storms of short duration. A rain of three inches in one and one half hours is not uncommon. At intervals, rains of six inches during short periods of time occur. This causes entirely different methods of control than where slow gentle rains occur.

The annual precipitation is not great over most of the area, which makes it still more important that control measures be designed to get a higher percentage of the moisture into the ground where it falls, so nature can establish a heavier vegetative cover to protect the soil from wind and water.

Much thought must of necessity be given to the cultivation of the soil. Implements must be used to leave a roughened surface to combat the action of the wind. If water erosion is to be lessened on cultivated land, the lister should be used instead of the plow, and the lister furrows run on the contour.

It is more profitable to raise a good crop by proper cultural methods than a poor crop on twice the acreage by improper cultivation. Much of the dry land in the state is of such a light textured soil that it should never have been broken out of cultivation in the first place. This land should be properly terraced and be allowed to go back to grass.

Proper land use should be studied by all, and even though it cannot be done at once due to economic conditions, a long time proper land use program should be started on every farm and ranch within the state of Colorado. This cannot be effected at once or in one year. We should look at it as a long time program. We have followed the old practices ever since farming began in this state. Now, in order to preserve our agriculture we must gradually change to different practices, and plan our farming and range operations to combat the effects of erosion.

Much of the work can be carried out by the individual, and much of it he will need assistance in carrying out. The Soil Conservation Service was brought into being to help with these problems, and it is the intention of every member of our staff to assist in the huge program in every possible way.

A. E. McClymonds,  
Regional Director.

## STOP THAT EROSION.

A year ago Kiowa Creek flowed as a meandering stream through green pastures, but the drought and subsequent flood united to transform this once fertile drainage into a far different picture.

One can now look across a barren stretch of sand sometimes a half mile in width. The greater part of this sand has been washed down from land of little value, but it has covered and ruined the most productive land along Kiowa Creek. This covering of sand varies from two inches to two feet in depth and from two hundred to two thousand feet in width, covering an area of approximately 2,000 acres.

The valleys are bounded by precipitous sandstones which are surmounted by broad plains or plateaus. At the top of the escarpment are hard sandstone members forming the floor of the plateaus. These do not erode in gullies, but afford little absorption - thereby causing a flash run-off.

The base of the escarpment is composed of soft sandstone, forming steep slopes and eroding easily. While the hard floor and steep slopes of the mesa are of little agricultural value, the water must be controlled so that it cannot carry sand to a neighbor's farm below.

To stop this devastation by water and sand, we must, by means of furrow, dam and vegetation, hold the water where it falls. So in the terms of football fight and the spirit of cooperation, we say, "Stop that erosion".

W. P. Mellen  
Assistant Technician - E C W

## STOP THAT DUST STORM

Now is the time for farmers in eastern Colorado to prepare their land against that ever present hazard, soil blowing. If every farmer in Colorado would make it a point to see that all his unprotected fields, such as bean land, fallow, etc., are controlled either by fall listing or duckfooting, or by the use of any tool that will leave the surface soil roughened, then dust storms such as we had last winter and spring will be a thing of the past.

Dryland farmers in eastern Colorado cannot afford to lose any part of their valuable top soil. To insure against this loss the soil must be protected at all times. Our dryland soils are not deep soils, the top soil ranges from 4 to 10 inches in depth. A field left unprotected is a menace to the adjoining piece of land as well as to the health of all the people in the community.

Mr. J. F. Brandon, superintendent of the U. S. Dryland Field Station, at Akron, Colorado, states that the peak of greatest soil erosion is correlated with the peak of greatest yearly wind movement over the plains of eastern Colorado. This peak normally occurs during the late winter or early spring.

Most hardland soils will not start moving until a wind velocity of 30 to 40 miles per hour is reached. Once they have started blowing, a wind velocity of only 8 to 10 miles will keep the soil in motion. The more sand a soil contains, the greater is the danger of blowing.

On hardland, furrowing with a shovel type implement crosswise to the prevailing wind will help con-

serve moisture and control blowing. The use of any type of implement that leaves the surface smooth and pulverizes the soil is undesirable. Ridged, cloddy land is good insurance against blowing and run-off. On very sandy land, furrowing even when wet will not, in most cases, give the desired results. Strip cropping, using alternate strips of row crop and drilled crop, should be the general practice on sandy soils.

Once a field has started blowing, the condition will only grow worse unless methods of control are put into effect. During hard, sweeping windstorms, constant vigilance is necessary to prevent the developing of blow-spots which may involve vast areas. The spots should be worked with an implement that will leave the surface rough and cloddy. Work should always begin on the windward side.

Bean ground is by far the worst blow hazard in Colorado, and is also the hardest land to prevent from blowing. There are several reasons for this: First, beans are usually grown on light, sandy soil, which under any condition is hard to control; second, the crop is cultivated late in the summer, preventing late summer weed growth; and, third, the method of harvesting leaves no root growth to help hold the soil, and also leaves the surface soil fairly well pulverized. If moisture conditions are favorable and the beans can be harvested early in September, a cover crop of winter rye, winter wheat, or even barley or spring wheat should be planted. If this is not practical, then the ground should be listed without fail.

Late planted winter wheat, or winter wheat that has failed to come up because of unfavorable moisture condition, is also subject to severe blowing. Winter wheat planted on fallow land usually prevents such things from happening. When the crop is planted on summer tilled or fallow land, there is generally suf-

ficient moisture already in the soil to insure good germination and winter cover.

In speaking of fallow, it might be well to explain. Fallow is included in the cropping plan for three reasons: To build up reserve moisture for the crop that is to follow, to increase the amount of available plant food in the soil, and to control weeds. Some people have the mistaken idea that they are fallowing when they run the disk over the field a couple of times during the summer and then let weeds grow upon it. That is not fallow, it is just idle land.

Fallow should receive just as much attention as the corn and beans. It requires just as much moisture and plant food to grow a good crop of weeds as it does to grow a good crop of corn or wheat. Therefore, unless all weed growth is controlled and the soil left in a rough, cloddy condition to prevent run-off and blowing, it might as well be planted to a crop.

In areas where the annual precipitation is between 10 and 17 inches, a cropping system of fallow, winter wheat, and row crop has been found to be very successful.

The pasturing of weedy cultivated fields in late fall and winter is never a good practice on the plains of eastern Colorado. The less the surface soil is disturbed by trampling during the winter season, the better it will keep from blowing. This can be accomplished best by carrying feed in reserve from year to year, so that pasturing dead thistles on stubble land will not be necessary during dry winters which are preceded by dry summers.

## CHEERY CREEK

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Actual work is under way on the new Cherry Creek project. The program is of vital concern to the residents and landowners of this region, who well remember previous floods covering their fertile hay lands and destroying their property. The project is also of great significance to the residents of Denver as the aforementioned floods, which originated in these headwaters swept into their city endangering their lives and property.

Two cooperators, J. W. Higbee and W. L. Millwright, have already signed up, and fifteen others have signified their intention of doing so. Under the direction of Engineer Peck, work has been started on the Higbee and Millwright properties. 171,773 linear feet of contour furrowing have been staked out and 40 acres of timber have been thinned, all diseased timber having been removed. There are several tracts of timber in this area that are almost worthless because of disease.

The conservation problem involves the use of all general control methods, namely--narrow and broad base terraces, diversion ditches, contour furrows, vegetative means, water spreading devices and dams for stock and flood control.

The full cooperation of every landowner and tenant in the area will be necessary to achieve the desired results of this program. Experience has shown that it is quite futile to control one farm without controlling the adjacent land. If the landowner and The Soil Conservation Service cooperate fully, it is felt that the moisture will be retained where it falls, the landowner will be permanently benefitted, and the Cherry Creek flood menace will be removed.

## AS SEEN FROM THE OFFICE

Possibly this should be called a worm's eye view of Erosion Control, for it is the job as seen from the point of view of an office-man.

Certainly one might wonder at first glance how or if a mere office-man could make any important contribution to so excellent a cause. In his more romantic moments (and he has them) he might wish to get cut into the thick of things and do a little direct control work of his own, but the probabilities are that he will never get the chance. For the physical control work on the projects is in far more capable hands than his. But even so, without him the organization could function but feebly. Materials and supplies must be purchased and paid for, men must be employed and paid, materials must be moved when and where needed. These are all primary needs which must be met, and it is perfectly obvious that methods of controlling prices, quantities, deliveries of and payment for all such materials and services are necessary. But beyond this are many secondary records to be kept, the need for which might escape the casual observer, but which are nevertheless indispensable.

Motor trucks for transporting men and materials must be kept operating, which involves expense of operation and maintenance, such as purchases of motor fuels, lubricating oils, spare parts, as well as the keeping of records to determine when a piece of equipment has outlived the period when it can be operated efficiently.

Then too, accidents will occur on the work from time to time, and that calls for the establishment of adequate records of personnel, maintaining a list of Doctors and Hospitals and a complete system of gathering all facts relative to an accident with a view to preventing a recurrence and providing the Compensation

Commission at Washington for the fixing and payment of compensation to the injured, if any be due.

Need the continuous and voluminous reports to Washington be mentioned? Irksome at times they are, perhaps, and yet essential to presenting to our chiefs at headquarters a picture of what has been done, what should be done and even perhaps what might have been done, but was not. All to the end that our efforts may be better coordinated and the work of the Service carried on more effectively.

This sketches only a few of the things the office-man has to do, but the list must be cut short lest even the reading of it becomes as tedious to you as the operations it describes do at times to us. But in conclusion, let it be said that the ideals of service of the office-man are no whit lower than those of the other members of the staff - and the atmosphere of the Colorado Project is such as to encourage the highest expression of those ideals.

W. C. Koch

Junior Administrative Assistant

Editor's Note: Mr. Koch is now with the Service on the Gila Project, headquarters at Safford, Arizona.

#### A READER'S PAGE

We will welcome contributions from our readers, that we may establish a "Reader's Page" in this magazine.

Address your contributions to "Colorado Conservancy", Soil Conservation Service, Colorado Springs, Colorado, and we will include a page from our readers in the December issue.

## CONTROLLED GRAZING, A VITAL FACTOR IN THE REPRODUCTION OF PASTURE PLANTS

Most of the native grasses constituting the greater percentage of our pasture cover are propagated from year to year by means of vegetative reproduction, that is, by means of stolons or runners. This type of reproduction is not entirely depended upon for the survival of the species, but it serves as a measure to carry it over periods unfavorable to the production of seed. From the standpoint of the work of Soil Conservation and the reconditioning of forage pastures, it is evident that strong consideration should be given to the care and preservation of the plant stock, especially during periods of severe drought and unfavorable conditions for seed production.

Under favorable conditions, seeds are produced that develop into young plants which will, under a system of controlled grazing, not only maintain the balance of the cover but will also induce the propagation of species that are beneficial. This in turn will effect the elimination of detrimental or obnoxious weeds.

Unfavorable conditions, however, bring about an opposite reaction. In periods when continued drought exists, growth as well as the production of seed capable of germination becomes a plant burden which increases with grazing. It is during such periods that the effect of controlled grazing upon the development and survival of the species become more evident.

Experiments to show the effect of controlled grazing on pastures under diversified treatment are now being planned and conducted by the Soil Conservation Service, of the Department of Agriculture.

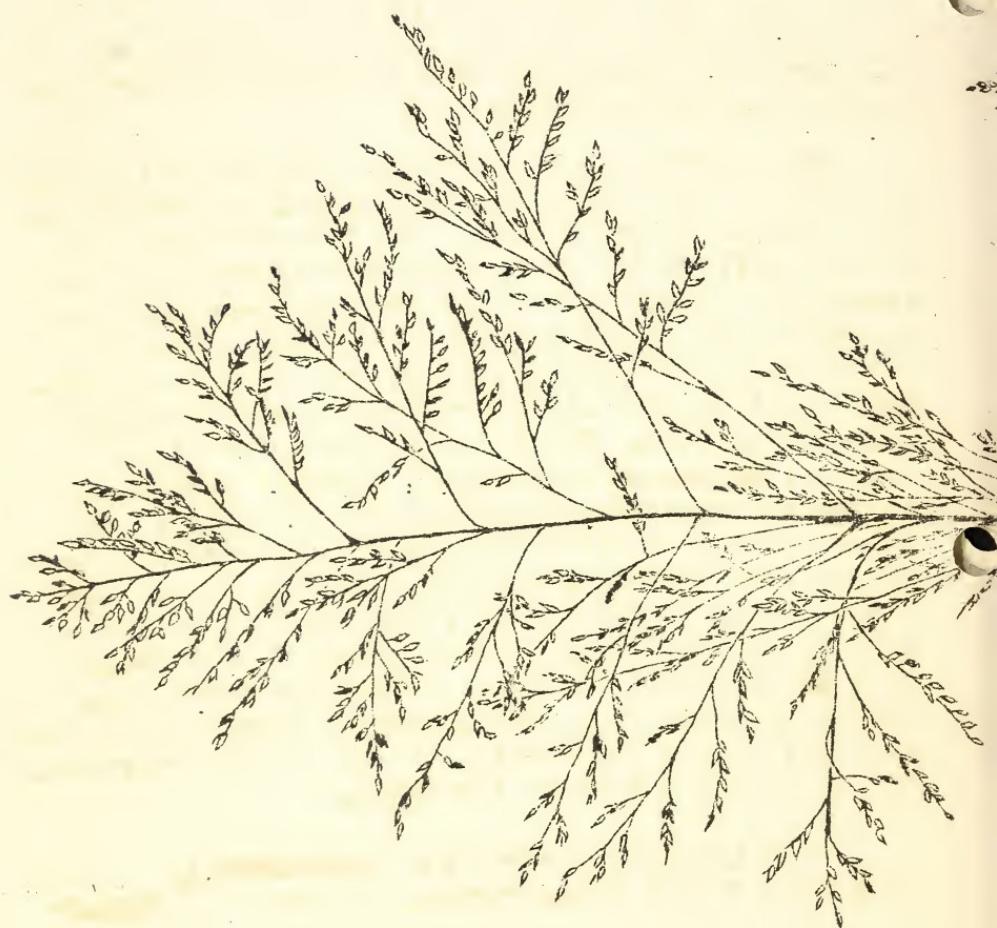
A. D. Harvey  
Agricultural Aide

Dropseed Grasses

The dropseed grasses are some of our best native forage plants, and as indicated by the name, the seeds drop at maturity. Nearly all of the perennial species are palatable to all classes of stock. Although most of the dropseeds are not in great enough abundance to be of forage value from the standpoint of quantity produced, a few species are plentiful on the ranges of Colorado and are well worth considering as pasture plants. Other than forage value, their greatest importance is the ability to grow on alkali land where many other plants fail to survive. In Colorado, two of the most abundant species are alkali dropseed (*Sporobolus airoides*) and sand dropseed (*Sporobolus cryptandrus*).

Alkali dropseed (*Sporobolus airoides*) Fig. 1, is found in the mountains, high mesas, and prairies. The altitude range is from a few hundred feet up to about 11,000 feet. It is very drought enduring and occurs on a variety of soils from sandy-gravelly to clay-loam and alkali flats. It usually grows as a bunch grass, but under favorable conditions may produce a sod and withstand overgrazing and trampling exceedingly well. Other common names are alkali sacaton, big-plume bunchgrass, fine-top saltgrass, hairgrass dropseed, rushgrass, and saltgrass. The stems are 1 to 3 feet high, with long, narrow leaves and a loose spreading panicle, or head, nearly one-half as long as the entire plant and at least one-half as wide as long. Usually there is a fair-sized crop of seed that ripens in August and September. Alkali dropseed is a very important fodder and pasture crop for horses and cattle, but due to its coarseness is not highly palatable for sheep.

Sand dropseed (*Sporobolus cryptandrus*), Fig. 2, sometimes called prairiegrass, is common in ~~western~~



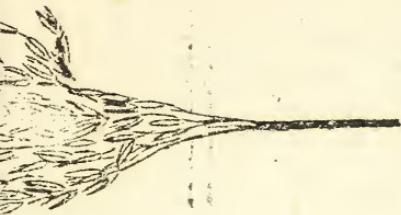
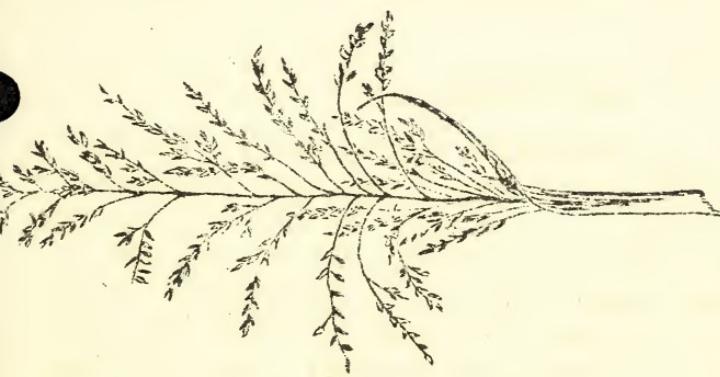


Figure 1.

Alkali Dropseed.  
(*Sporobolus airoides*)



Sand Dropseed.  
(*Sporobolus cryptandrus*)



Sand-grass.  
(*Calamovilfa longifolia*)

Figure 3.

IMPETANT NATIVE GRASSES.



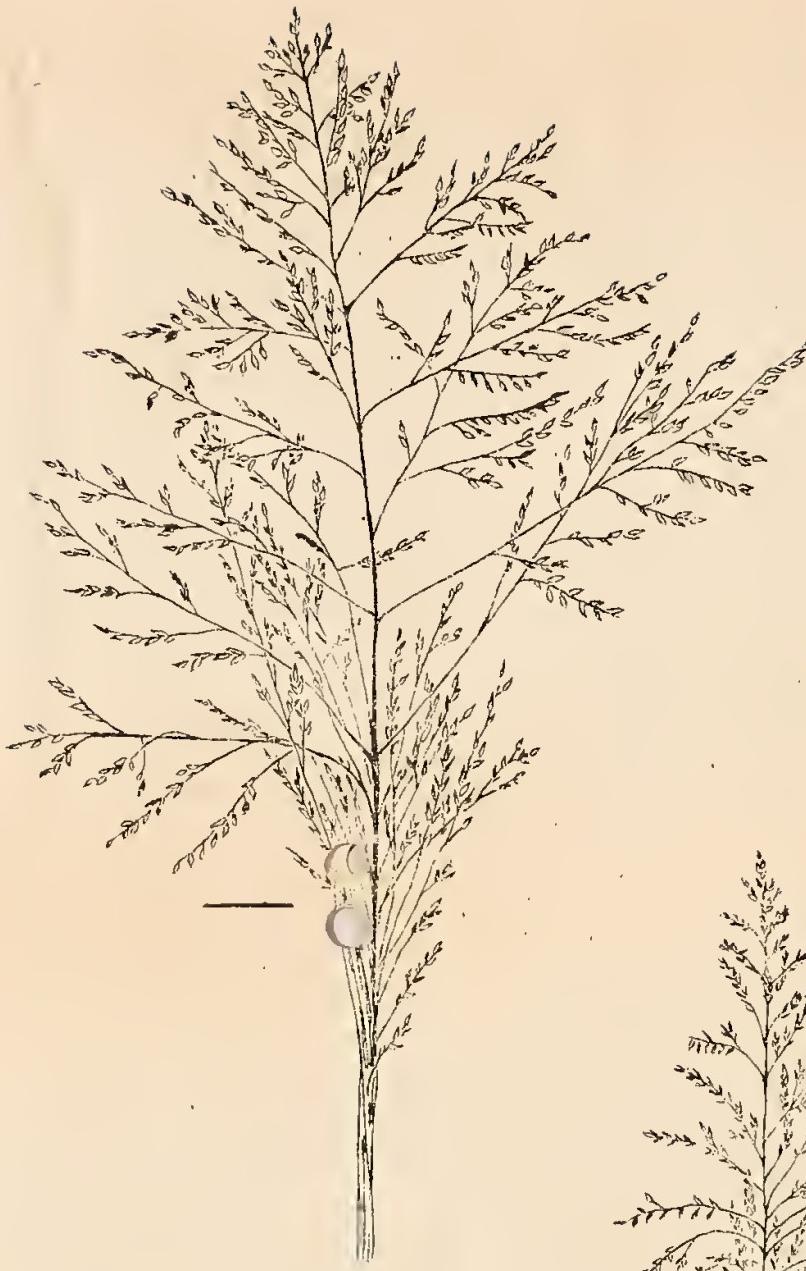


Figure 1.

Alkali Dropseed.  
(*Sporobolus airoides*)



Figure 2.  
Sand Dropseed.  
(*Sporobolus cryptandrus*)

Figure 2.

Figure 3.  
Sand-grass.  
(*Calamovilfa longifolia*)

IMPORTANT NATIVE GRASSES.



Figure 3.

Colorado in sandy soils of the mesas and plains. Where abundant, it furnishes a large amount of forage of fair quality, palatable to horses and cattle and a lesser extent to sheep. It usually grows erect, 1 to 3 feet tall, with the more mature part of the panicle loose and spreading, the lower basal part of the panicle enclosed in the clasping leaves emerging with maturity. A white tuft of fine hairs at the base of the leaf-blade is characteristic of this species.

### Sand-grass

Sand-grass (*Calamovilfa longifolia*), Fig. 3, also called sandreed, is one of the best sand-binding grasses in Colorado. It grows in height ranging from 2.5 to 6 feet; the stems, coarse and woody, are of only fair forage value for horses and cattle and of little value for sheep. The mature plants are fair winter pasture for horses and cattle. The panicles are rather narrow and contracted, 6 to 1½ inches in length. A conspicuous tuft of fine white hair at the base of the bracts surrounding the seed is characteristic of this grass.

C. W. Frutchey  
Jr., Agronomist

From our SCS Exchange

SOIL EROSION IS NOT A THEORY; it is as real as life itself. It is like a cancer in that it slowly but surely eats away the life blood of the land--the topsoil. Like a robber it steals our wealth, causing untold misery to millions who through the loss of their fertile soil have been forced to eke out a livelihood on sub-marginal land, or else leave the farm for the industrial centers, where another story of misery and sorrow is often told in unemployment, social wars and general economic chaos.

## LAWS OF NATURE

The laws of nature are inexorable. The relentless elements continually affect the condition of the surface of the earth, we call the soil. Rain beats down upon that surface and permeates it or runs off. Snow falls and accumulates and the moisture therefrom seaks into the soil or follows the drainage ways. The winds blow and carry countless particles of surface soil. The same water that is necessary to life itself, may be a ravaging flood in concentrations of large volume. The same breeze that actuates the necessary windmill, may, with added velocity, be a denuding and damaging force of terrifying proportions.

Nature's laws are inexorable but they are of benefit to mankind. If man uses the land properly then the laws of Nature operate to aid him. If man uses the land improperly, then those same laws work to render the land valueless in the end. The history of the West has been the history of land "booms" and land exploitation in many areas. The same process that pays when normal climate conditions prevail becomes exploitation in years of drought. Exploitation of the wealth of the soil in normal times becomes worse when abnormal conditions prevail.

Nature provided plant life as a means of holding wind and water erosion to a minimum. The erosion that Nature intended to go on through the centuries is that erosion which is so slow that man does not observe or note it and yet it is the natural process which has formed our deep and fertile valley soils. Exploitation and drought have, for the time, turned the good laws of Nature against us. We humans must take the blame and guard against abuse of the land. Man must adopt and work a ser-

sible plan of use of the land.

Recognizing these conditions, man must then devise mechanical means that can be coupled with proper cropping systems, planting methods and grazing plans to aid Nature remedy the damage that has been done.

A practical plan of aiding Nature in the reconstruction of exploited land is now being put into effect on the demonstrational areas now being worked by the Soil Conservation Service. This plan of assisting and speeding the processes of Nature in redeeming the past overdrafts on our soils, is one of cooperation with the owner and operator and it is devised to fit their needs and methods. It is a plan arrived at with and by the owner and operator. It is one of cooperation and not of dictation.

The laws of Nature are inexorable. The laws by which man operates the land must be amended to fit into the plan of nature so that man may enjoy the use of the land to the best advantage.

Having arrived at the point where he is convinced that a solution of the problem must be attempted, and being ready to enter into a five year cooperative agreement, providing it is drawn to fit his conditions, the individual operating land in demonstrational areas proceeds as follows:

1. By making an application for the work which merely gives the Soil Conservation Service the right to prepare a plan for the individual place.
2. A detailed soil survey and study of the place will be made.

3. A soils map of the place will be prepared.
4. A land use map will be prepared showing the proposed work to be done.
5. Notes regarding work to be done will be prepared by the soils experts, agricultural engineers, agronomy specialists, foresters and range management men connected with the Soil Conservation Service. These notes will be explanatory of all work to be done and will stipulate materials and work to be furnished by the Soil Conservation Service and by the cooperator.
6. Maps and notes are then brought together in the cooperative agreement prepared by the Conservationist and the plan is presented to the cooperater for his approval. Many of these steps have been previously discussed with him as they were prepared.
7. Having the approval of the cooperater, the final copies of the agreement are prepared and signed by the cooperater, the chiefs of the Soil Conservation Service Departments, and the Regional Director.
8. Copies of the final agreement go to the cooperater, the departments concerned and to Washington.
9. Work on the place begins as soon as the Soil Conservation Service crews can get to the property, and is completed as rapidly as possible, remembering that work should begin at the top of all drainages.
10. The cooperater follows the plan set forth in the agreement through the five year period.

following the entire plan in detail and maintaining structures as necessary. Practical changes in plan may be necessitated to suit conditions developing from time to time and these are covered by amendment to the original contract. The Conservationist assigned to the area follows up the agreement through the life of the contract, making visitations from time to time and aiding the cooperator through the technical service of The Soil Conservation Service as he may require.

Thus the individual concerned aids Nature to rebuild the surface soil recognizing that the inexorable but just and good laws of Nature work in his favor when he plans and works with common sense in the use of his land.

G. E. McCrimmon  
Assoc. Soil Conservationist

THE EROSION LAMENT  
(With due apologies)

Hordes of gullies now remind us  
We should build our lands to stay,  
And departing leave behind us  
Fields that have not washed away.

When our boys assume the mortgage  
On the land that's had our toil,  
They'll not have to ask the question—  
Here's the farm—but where's the Soil?

## THE BEST INVESTMENT

A good productive pasture or range is comparable to a sound investment in gilt edged securities, just as the investor receives semi-annual dividend checks from his investment, so does the stockman receive his dividend in the form of livestock maintained and fattened at a minimum of expense.

Just as long as the investor leaves his capital intact he will, barring unavoidable circumstances, be assured of an income. The moment, however, that this same investor commences to speculate and draw upon his capital investment, he is sooner or later doomed to financial distress, if not failure. So will the stock man be doomed to high production costs if he does not zealously guard his capital investment in the form of good pasture.

With more than 80% of the land lying within areas under the supervision of the Soil Conservation Service being unsuited for anything but pasture, the problem of a suitable program of rehabilitating these pasture lands assumes a position of primary importance to not only the Soil Conservation Service but also to the operators within these areas.

Grass is the most economical item in the long list of feeds required to produce the finished meat that the consumer buys over the block. Experience has clearly demonstrated that the producer who can pasture his livestock for eight to ten months out of the year, and then market an animal of prime quality is in a much better position to maintain a minimum of production costs than the producer who is required to feed his stock on agricultural crops. This fact has been accentuated particularly during the past five years when nature in collusion with depressed markets has placed the livestock operator in a most precarious position and has forcibly brought to his attention the advantages of productive pastures.

During the period 1915 to 1930 unit costs of production for livestock has steadily risen and has at times passed gross returns. This unbalanced condition cannot, in all justice, be laid entirely upon the door step of increased labor charges, higher taxes and other incidental expenses.

A great deal of this is attributable to the increasing shortage of pasture and range, necessitating either purchase or production of supplementary feeds for maintaining or finishing livestock for market. Concurrently in this period the western producer has had to meet much keener competition from the midwest farming states. The day has passed when sheep and cattle can be "raw hided" through, when quantity and not quality was the criterion of stock men.

If this practice were to continue indefinitely, it would only be a question of time until the ranges would be almost denuded of feed. Fortunately, however, the livestock industry is keenly aware of this impending danger and is now taking drastic steps to remedy the situation.

The activities of the Soil Conservation Service fit perfectly into this picture. Primarily the fundamental policy of the Service is the prevention of further erosion and the conservation of natural resources. This in part can be achieved by the protection and rehabilitation of existing pasture and range lands. The plans of the Soil Conservation Service in outlining this program is to work in close cooperation with the owner and operator, and assist him in every possible manner in working out a system of deferred and rotated use of his lands which will accomplish the two-fold purpose of preventing excessive and damaging run-off and at the same time materially improve his economic use and returns from his land.

Kenneth Chalmers  
Assistant Range Examiner

## THE SMOKY HILL RIVER PROJECT

The Smoky Hill River Project is situated in the east-central portion of Colorado. In this area wind erosion has been effective in removing much of the soil. This has been brought about by various conditions which are described briefly.

The soils are for the most part immaturely developed, containing a considerable amount of salts. This lack of development is due to the lack of and retention of enough rainfall to leach the soluble salts into their respective horizons in the soil profile. It is the nature of these immaturely developed soils to form a very compact soil due to the lack of structure development.

The soil is also deficient in the amount of organic matter, which acts as a sponge in absorbing the precipitation. This has been removed in the top-soil by wind. All of these conditions have caused a corresponding deficiency in the vegetative cover.

When rain falls with any intensity, the largest percentage runs off the soil. This is due to the above-mentioned conditions, leaving the soil in a loose, powdery condition which is very subject to wind erosion.

The fields which have been under cultivation are the problem areas in the Smoky Hill project. In many instances, from 12 to 20 inches of the soil have been removed, leaving subsoil exposed. The subsoil for the most part is a loose, powdery lime material which blows very easily when dry. The problem in this area is to bring about such a soil condition that the available moisture will be absorbed and a cover crop can be maintained.

There are many such fields in the Smoky Hill area. In some cases the subsoil has been mixed with the geologic material, which becomes very compact when dry. This makes cultivation practically an impossibility. These conditions are being remedied by proper control methods.

Wallace L. Bruce, Soil Surveyor  
Soil Conservation Service  
Colorado Springs, Colo.

#### MORE ABOUT COLORADO CONSERVATION DAYS

The Soil Conservation Service is initiating a Colorado Conservation Day and all Federal, State and Local Conservancy Agencies will be invited to participate. The Colorado Springs Municipal Auditorium is the tentative site under consideration for the proposed exposition. Colorado Springs is an ideal city for this program because of its excellent auditorium, and also its central geographic location in the state.

The program under consideration will probably cover a period of two days, the first a field day featuring tours of the various conservation activities in the region in which all phases of conservation may be found. The second day will be devoted to exhibits, special features and speeches by notables from Washington. We believe that such a program will afford the rural and urban population of our state an opportunity to become better informed on one of our foremost National problems, namely the Conservation of Natural Resources.

Plans are being formulated to hold this exposition in June, 1936. All conservation agencies will be invited to cooperate including the Forestry Service, National Park Service, State Game and Fish Department, Izaak Walton League, County Extension Agents, Boy Scouts of America, Colorado State College, The Soil Conservation Service and others.

## SOIL CONSERVATION SERVICE NURSERY ESTABLISHED.

An eighty-acre nursery has been allotted to the regional office of the Soil Conservation Service, at Colorado Springs. The land that has been approved for that purpose was obtained from the Myron Stratton Estate and joins the southern part of the city or Nevada Avenue. The establishment of the nursery covers two purposes; one to provide propagating beds for the large number of trees and shrubs that are to be used in erosion control work; and the other to form a proving ground for the testing of all manner of plants that may have a possibility for use in this work.

Hundreds of different plants will be sent here for planting next season. These will include the material which was obtained by explorers of the United States Department of Agriculture in their search for erosion and drought resistant plants in Russia, Turkey and Turkostan a year ago, and a complete collection of plant material from our own plains area so that these possibilities will not be overlooked.

These investigators are extremely anxious to locate a leguminous forage plant that will have the relative utility that alfalfa and sweet clover have on the irrigated and semi-arid farm lands. Any such plant that combines good palatability and yield with an adaption for the dryland areas of Colorado will be of tremendous importance in forming a cover crop and for the building up of soil fertility on lands that have been cropped for a long time. Native grasses will also be considered thoroughly with the possibilities of locating those from which a dependable seed supply can be obtained, and through selection to develop strains that are more effective in erosion control and for revegetation of waste lands than those which are now being used.

It is estimated that the annual production of the new nursery will be ten million trees and shrubs. Half of these will be pine and cedar and the other half will be hardwoods, such as locust, yellow pine, Russian olive, Chinese elm, green ash, chokecherry, wild plum, three-leaved sumac, snowberry, etc. The various species to be produced are those which have been found well adapted to the purpose for which they are to be used.

Many thousands of the trees and shrubs will be planted in gullies to check further cutting and to collect debris and silt, gradually filling the washes that have resulted from uncontrolled run-off of rain and melting snow. Other thousands of the trees will be used to establish woodlots in the plains region for the production of fuel and fence posts. Shelterbelts around ranch buildings, around cultivated fields, and for stock protection, will also require a large number of the small trees.

The trees will be used on the various Soil Conservation Service projects and on the projects handled by the several CCC camps under the direction of the Soil Conservation Service in Colorado and Wyoming.

Most of the hardwoods will be planted as one-year old seedlings. The pines and cedars, on the other hand, will be held in the nursery for three years, after which they will be planted in woodlots and shelterbelts.

C. R. Enlow, Chief of Erosion nurseries, and Dr. H. M. Hoover, of the same office, who visited the regional office recently, expressed themselves as well pleased with the location which has been selected for the nursery. The nursery will be under the supervisory direction of H. D. Petheram, chief forester, and J. H. Christ, chief agronomist, of the local office, and W. H. Schrader, Jr.